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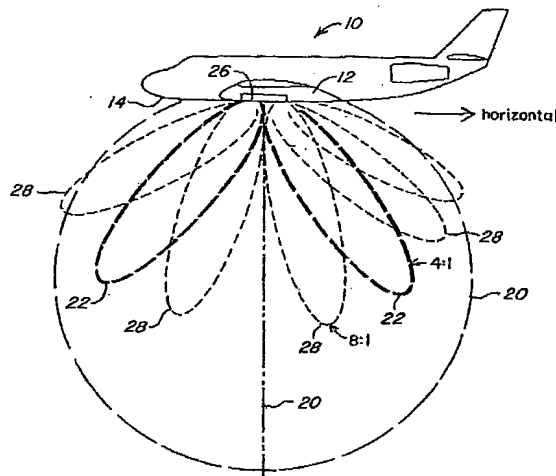
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[Continued on next page]

(54) Title: CAVITY EMBEDDED ANTENNA



(57) **Abstract:** A nested cavity embedded loop mode antenna is provided with an ultra wide band response by nesting individual embedded cavity meander line loaded antenna modules, with the meander lines coupled to a ground plane plate either capacitively or directly so as to provide as much as a 27:1 ratio of high frequency to low frequency cutoff. The nested meander line structure is exceptionally compact and eliminates the problem of a null in the antenna radiation pattern perpendicular to the face of the antenna, thus to provide a loop type antenna pattern at all frequencies across which the antenna is to be operated. The use of the nested meander line configuration provides a flush mount for the antenna having a footprint associated with the larger of the meander line cavities and thus the lowest frequency of operation, the nesting precluding the necessity of providing separate side-by-side meander line loaded antennas which would increase the real estate required. Additionally, a shunted slotline embodiment of the cavity-embedded antenna substitutes shunted slots for meander lines to provide for a low-cost wide bandwidth cavity-embedded antenna.

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